

DENSITY OF MIXED METALS

$$\rho_t = \frac{\rho_1}{1 + (\frac{1}{w_1} - 1) \frac{a_1}{a_2}} + \frac{\rho_2}{1 + (\frac{1}{w_1} - 1) \frac{a_1}{a_2}}$$

where

 ρ_t = density of mixture ρ_1 = density of metal #1 ρ_2 = density of metal #2 w_1 = Wt. fraction of metal #1 a_1 = Atomic Wt. metal #1 a_2 = Atomic Wt. metal #2

$$(a/o)_1 = \frac{100}{1 + \frac{a_1}{a_2} \left[\frac{100}{w/o_1} - 1 \right]}$$

$$(w/o)_1 = \frac{100}{1 + \frac{a_2}{a_1} \left[\frac{100}{a/o_1} - 1 \right]}$$